

COUNTY OF ZETLAND.

MAINLAND DISTRICT.

REPORTS

BY

Medical Officer of Health

AND

Sanitary Inspector.

YEAR ENDED 31ST DECEMBER, 1928.

PUBLIC HEALTH OFFICE,

BRENTHAM PLACE,

LERWICK, *April*, 1929.

To

*The Department of Health for Scotland,
The County Council of Zetland, and
The Mainland District Committee of the County.*

GENTLEMEN,

I have the honour to submit the Annual Report for 1928 in the form prescribed by the Scottish Board of Health.

In resigning the combined appointments in this County, I desire to take this opportunity of thanking Shetland folk for their uniform courtesy, of which I shall always retain a pleasant memory. I am grateful to all medical practitioners and school teachers for their consideration and co-operation in public health and school work. But I am specially indebted to the County Sanitary Inspector, Mr W. A. Watt, the Lerwick Health Nurse, Miss Shearer, and the Health Office Clerk, Mr R. C. Thomson, whom I am proud to call my friends, and from whom I part with regret. I hope the Local Authorities are aware of the cheerful and admirable service of these colleagues in the public weal.

Yours obediently,

JOHN CRAWFORD, M.D.,

Medical Officer of Health.



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REPORT by the Medical Officer of Health, for the year ended 31st December 1928.

A and B.—General Remarks.

The population of the District, as estimated by the Registrar-General to the middle of 1928, was 14,593. There were 238 deaths (100 males and 138 females) during the year, giving a rate (corrected for transfers only) of 16.3 per 1000. There were 171 births (87 males and 84 females)—of which 11, or 6.4 per cent., were illegitimate—giving a corrected rate of 11.7. The infantile mortality rate (deaths under 1 year per 1000 births) was 53.

For the last six years the number of births has been below that of deaths. A birth rate of 11.7 is very low.

Tuberculosis, with 18 deaths, was again not the main cause of death. Heart disease and malignant diseases claimed 25 and 29, and apoplexy 23. All respiratory diseases (other than pulmonary tuberculosis) accounted for 15 deaths, and influenza for 11.

Of the 238 deaths registered about 14 per cent. were uncertified, the deaths in most cases being stated as due to old age.

A report on the weather for 1928 is inserted, for which I have to thank the Officer-in-Charge of the Meteorological station.

Some nine years' experience of this County leads one to the view that here, as elsewhere, the food and housing of the people are most important health factors, for it is upon these that the incidence of many avoidable diseases depends. The difficult question of housing must be mentioned under its own heading, while as regards food one can only reiterate remarks made before in these reports. Further experience, and conversation with many thinking Shetlanders all over the County, only confirm the view that the diet is deteriorating, and that a population comparable to that of years past cannot be raised on a staple of tea and biscuits and bakers' bread. Adults do not matter so much, but it is most important that growing children should

have a diet proper in quality and quantity of their needs. Milk should be easily obtainable and more used, and recent experiments have shown clearly the remarkable effects of its increased use on the growth of children.

One of the most valuable influences on the health of the community is that of the District Nurses, and members of the Council are again pressed to keep this service efficient, or, in the parishes where it is not yet at work, to make every effort to establish it. In all the County there remain only the parishes of Delting, Lunnasting, and Nesting not supplied, but one is not without hope that a year or two may see the difficulties even there overcome.

Householders in general are beginning to see the need for a proper sanitary convenience, or closet, for each house. There still remains, however, an objection in many cases, which is not easily understood; and in the more congested areas of Scalloway and Lerwick (both Burgh and Landward) there remain many houses quite unprovided. This must and does lead to constipation, which, as everyone knows, is the root of many ills.

A condition of general interest which may be mentioned here is that of the teeth of the school children. Year after year one notes in school examinations that 50 to 60 per cent. of all children are in need of dental treatment, many very urgently so; and it is no uncommon thing to find quite young children with scarcely a sound tooth, and often a mouth obviously septic. Such children are usually below par, as is natural. The main palliative for this is the provision by the Education Authority of proper dental treatment. This has been considered by that body, but the difficulty, or rather the expense, seems to have reduced it to impotence. One hopes that the future may yet produce some workable scheme. Diet is almost certainly at the root of the trouble, but a school dentist is no less urgently required.

A retiring official may perhaps be permitted respectfully to deplore the lack of interest in all forms of public health work, on the part of members of the Local Authorities in general. There are, of course, a few—very few—notable exceptions. But repeatedly the Public Health Joint Committee has been asked for helpful criticisms and none has ever been given. Year after year the Education Authority has met next door to its Medical Officer's office, but members have never made any enquiries as to the medical work among the children for whom they are responsible. Surely such bodies will see in time that more time spent on the hygienic education of children would be a gain in the end. In rural counties, such as this, a great part of the improvement of the people's general condition lies in the hands of an Education Authority. The school ought to be a bright and attractive

RAINFALL, SUNSHINE, TEMPERATURE AND WIND FOR 1928.

RAINFALL (IN INCHES.)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Total rainfall for month	6.00	4.13	2.68	1.89	1.55	3.38	2.14	3.47	2.57	5.57	5.30	5.23
Maximum fall in one day	0.74	0.88	0.43	0.37	0.48	1.04	0.33	1.04	0.36	1.24	1.05	0.77
*Duration of rain†all (hrs.)	98.60	76.20	80.10	34.70	26.90	48.40	45.20	32.10	53.80	72.40	109.70	105.90
Mean rate of fall per hour	0.061	0.054	0.033	0.054	0.057	0.707	0.047	0.108	0.048	0.077	0.048	0.049
Rainless days	2	10	8	13	19	9	12	17	9	8	3	4
†Wet days	26	16	17	10	10	16	14	7	14	18	21	22
Total number of rainless days in year	114											
Total number of wet days in year	191											
	Total rainfall											
	Total duration											
	..... 784.00 hrs.											

SUNSHINE (IN HOURS.)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Total sunshine for month	19.1	45.7	44.6	125.7	149.6	165.3	131.0	70.5	132.5	68.4	26.7	11.1
Maximum in one day	3.8	7.8	7.5	12.3	15.5	15.4	11.5	12.8	11.5	8.2	4.7	3.2
Sunless days	18	14	17	2	2	2	2	8	3	6	15	16
Percentage of possible sunshine...	9	17	12	29	28	29	24	15	34	22	12	6
Total number of sunless days	105											
	Percentage of possible sunshine for year ... 19.7											

TEMPERATURE (IN DEGREES FAHRENHEIT.)

(Mean for month obtained from mean of daily maxima and minima.)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Mean temperature	38.3	39.1	39.5	42.1	44.8	46.3	50.3	50.6	49.1	46.2	41.8	39.1
Highest daily maximum for month	46.5	47.4	49.2	56.7	58.2	58.4	60.9	58.9	61.2	56.9	52.4	49.1
Lowest daily maximum for month	39.1	34.8	38.4	38.2	44.6	46.1	50.5	51.1	46.8	44.8	39.9	37.8
Highest daily minimum for month	41.1	39.9	41.9	43.1	47.7	47.4	50.0	51.0	50.4	49.0	43.7	41.6
Lowest daily minimum for month	30.1	26.9	27.8	27.0	28.1	32.1	39.2	36.1	34.8	32.9	29.1	30.1

WIND (IN MILES PER HOUR).§

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Number of hours of wind over 38 m. p. h.	77	72	28	3	—	3	7	—	—	11	5	3
Number of hours of wind 25-38 m. p. h.	300	256	185	140	20	70	105	41	33*	75	62	209
Number of hours of wind under 25 m. p. h.	350	368	531	577	724	636	632	703	687	658	653	532
Maximum hourly wind in m.p.h. ...	51	55	44	40	27	40	46	37	33	48	47	40
Direction of max. hourly wind ...	SW	SW	SE'S	NNE	N'E	NW'W	SW	SW	SW'W	S'W	SW	SW
Time of max. hourly wind	0800	1600	1200	1500	1400	1000	2200	1400	1600	1700	2200	2300
Date of maximum hourly wind ...	24th	1st	21st	18th	15th	11th	14th	8th	10th	20th	12th	23rd
Velocity of highest gust	87	77	61	58	41	60	65	53	50	72	68	58

*Duration is measured by noting the total time during which rains fall at a rate not less than 0.004 ins. per hour, as shown by a self-recording rain gauge. †A wet day is one on which 0.04 ins. or more of rain is recorded. Gale force is 38 m.p.h. or over.

Strong winds 24 to 38 m.p. h. Time is reckoned from midnight as 0 to 24 hours.

§No record was obtained for 17 hours in January, and for 11 hours in June.

place, and its sanitary arrangements a pattern to the neighbours. More consideration of the physical improvement of scholars is urgently needed. The educative influence of the present admirable Bruce Hostel for girls should indeed be most marked, and more of such hygienic training is much needed in all schools. It is a pity that there is no hostel for boys.

The modified Child Welfare Scheme at present extant in Lerwick Burgh was instituted voluntarily against scarcely-veiled hostility on the part of certain gentlemen, and is even now regarded only with tolerance by the Council as a whole. Interest there is none, and the admirable work of the Nurse passes almost unmarked. But the Lerwick mothers know.

More interest has been shown in tuberculosis, and the perseverance of a few members of the County Council, especially of its late Convener, has resulted in the provision of a Sanatorium of which all Shetlanders may be proud. The existence of this small but comfortable and up-to-date institution ends the makeshift of the "sanatorium wards" at the Combination Hospital, and concludes an obstructed and sometimes somnolent discussion which dates from 1912. One cannot but reflect on how many lives might have been spared, how much suffering prevented, and how much money saved, had this building then been provided.

It was evident on arrival in this County that the greatest administrative difficulty is that of transport. This has proved the main source of friction with the Local Authorities and indeed the only point arising in the work on which much interest has been shown. But it should surely be obvious that where schools and patients supposed to be visited are dotted about a district like the Mainland, over 70 miles long and 30 miles at its widest (to say nothing of the islands) that travelling expenses must bulk large. There should have been far more country work done, but this has been restricted in deference to the wishes of the Joint Committee. The past year with over 100 notifications of scarlet fever and an increase in those of tuberculosis has been unusually expensive. But the Local Authorities either want the work done, or they do not. If they do, the expense is inevitable.

C, D, and E.—Water Supplies, Drainage, Etc.

There are two Water Districts in the County, Lerwick and Scalloway. These have been often described. The Lerwick supply is from the two lochs lying above the town and is not liable to any serious pollution, though the existence of a house and byre on the slope, and the presence there of peat-cutters during the summer, are to be noted. The water is supposed to

be filtered, but the area of the filters, considered in relation to the quantity delivered, shows that little reliance can be placed on the method. Figures have been supplied to the Town Council, and the works have been inspected by representatives of the Department. Occasionally interesting creatures are found in the water, but it cannot be said that these are much danger to health. The "water flea," various insect larvae, and some small undetermined thread-worms, have been observed. A few bacteriological tests seemed to show that about 10 organisms per cc. were found growing on agar at 37 degrees Centigrade. The quantity is usually sufficient, but should a dry summer coincide with a high demand from the fishing stations and drifters, there might be grave shortage. It would be possible, but expensive, to increase both the storage and the area of filtration.

The Scalloway supply is free from pollution, but its quantity is small. With increased storage the supply could be greatly improved, but at present the provision of much-needed water facilities in Scalloway cannot be enforced, as closets and sinks could not be properly served. The expense would seem prohibitive for the rating of the Special District.

As a rule the water supplies through the Mainland District are from shallow wells, and in most cases their contents are surface water. Deep wells are unknown, owing to the nature of the strata, and true springs are few. The Sanitary Inspector makes efforts to have wells protected as far as possible by kerbs and covers. A definite complaint was made as to the well at Trondra school, in which numerous "worms" were complained of. These turned out to be a form of small leech, not hitherto reported from Scotland; and probably, if swallowed, they would not long survive. Boiling the water was advised.

The only Special Drainage District of importance is that of Scalloway, and what has already been said will suffice to indicate the need for, and the difficulties in the way of, its extension.

There are no sewage purification works, as all sewage goes direct to the sea. On warm quiet days this certainly causes sickening smells at the more enclosed parts of the foreshore of Lerwick harbour, but the danger to health is slight.

There is no question of rivers pollution.

Offensive trades are represented by the whaling station at Olnafirth and the fish refuse works in Bressay. No action was required during the year in respect of them, and their conditions have been described in previous reports.

F, G, and H.—Housing, Etc.

Nothing can be added to what has been already stated; no

improvement has taken place. The most glaring instances of insanitary dwellings are in the vicinity of Lerwick, particularly the tenements of Lochside. It would seem impossible to render these places reasonably habitable, but that does not prevent comparatively large rents being charged for their use. A good croft can be had for £4, but that and often more is the price of one room in Lochside.

The continued occupation of such properties really reflects on the District Committee, even though the motives of that Committee be of the kindest. Lower Lochside is "slum property" of a bad kind, and its inhabitants would probably be healthier under canvas on the hillside. Its closure should really be faced.

As the Department requires a re-statement of conditions annually, the report of 1928 is again subjoined:—

"In reply to your letter of June 25, I now submit an estimate of the number of houses required in the Mainland District. Except in regard to the Landward part of Lerwick and the town of Scalloway, this estimate can be only vaguely approximate. Neither the Sanitary Inspector nor myself can have visited in the last six years half of the houses in this scattered district, and the figures given are deduced from our impressions only.

"*Houses required*:—(a) to relieve overcrowding, say 50. The worst of these cases occur in Lerwick (Landward)) but many crofter houses are certainly overcrowded; (b) to replace houses at present occupied which should be closed and demolished, say 100. There are about 50 houses in Lerwick (Landward) which are mere "shanties," and there must be another 50 at least over the District which are really unfit for habitation; (c) to re-house persons who will be dispossessed by Improvement Schemes, nil, as there are no such schemes; (d) to accommodate persons, at present living in apartments or otherwise, who desire a house, say 20. There is no definite information available as to these, but judging from enquiries of country people for houses, there must be a number of such cases."

There have been no proceedings under the Rural Workers Act, 1926, in regard to which the District Committee has corresponded with the Board.

The only town-planning possibilities are in regard to the extension of Lerwick Burgh, which has been reported on annually as desirable from a public health standpoint.

I, J, and K.—Infectious Diseases, Etc.

During the latter part of the year the District was visited by a general outbreak of mild and indeterminate scarlatina, from

which Lerwick Burgh escaped. So indefinite often were the signs and symptoms that many cases must have escaped notice, and probably only about half those occurring were notified. In all parts, however, quite typical cases were seen.

At the end of January four typical cases were notified from Dunrossness, the source of which was not traced. These were isolated, and no others occurred until the end of August and early September, when returns arrived from Burra, Whalsay, Lerwick (Landward), Bigton, and Hoswick, and from Ulsta, in Yell.

Several of these were definitely traced. It appears that (during the absence of the Medical Officer of Health on holiday) some girls at Lerwick fishing stations were treated for a tonsillitis, which was obviously infectious, since members of the same crews were concerned. They were not very ill and were not isolated, but there is little doubt that they and those in contact with them conveyed the disease over most of the Mainland District and to Ulsta. Notifications came from Delting on October 3, Walls on October 6, Reawick on October 31, and Vidlin on November 24.

Most of the cases were isolated at home, and by the end of the year all parts were clear, except Mossbank and Burra. Some doubtful cases were visited in Fair Isle during Christmas week. Many visits had to be paid, and a great addition to mileage was involved.

No cases of the typhoid group were notified during the year, but one suspect was removed from the Gilbert Bain Hospital to isolation.

The carrier case mentioned in last year's report was sent to Glasgow for operation, with the agreement of the parents, but some hitch occurred there in a manner not fully understood, and the person returned intact. Advice as to precautions at home has been supplied.

Besides the scarlatina mentioned, there were notified 2 malaria, 2 pneumonia, 2 puerperal fever, 8 chickenpox, and 4 erysipelas. In all, 23 cases were removed to the Combination Hospital, of which 21 were scarlatina.

The occurrence of scarlatina in Burra directs attention again to the difficulty of removal of infectious patients from islands. Passenger boats cannot take such patients, unless (as in typhoid fever) the Medical Officer of Health can undertake that no infection will take place; and there is generally no other conveyance possible. Nor can the Local Authority be advised to take the risk of removing even a mild case. When a number of severe cases arise in an island the Local Authority will be faced with the necessity of supplying adequate nursing, and last year in

Burra this almost occurred. The District Nurse is, of course, precluded by her maternity work from attending scarlatinal patients. Nothing but the extreme mildness of the disease prevented a very serious state of affairs in Burra.

The accommodation for infectious patients remains as before described, with the addition of the west block at the Combination Hospital occupied during the last nine years by tubercular patients. The opening of the new Sanatorium has thus ended a cause of anxiety to the Medical Officer of Health and, presumably, to the Committee, some ten extra beds being thus available.

The older wards at the back of the main building are ill-lighted and unattractive. In these, and especially in their annexes, repainting is much required, and floors need attention urgently. Fever patients are much helped by a cheerful and cleanly atmosphere in wards, and plenty of light and air.

The shed on the Knab, provided as a smallpox hospital, has been for some years becoming decrepit, and all are now agreed that its days of usefulness (if not of safety) are ended. Probably, owing to the insular situation of this County, and the unvaccinated condition of the people, as well as the fact that Lerwick is an important fishing port for British and foreign vessels, it will be necessary to provide a place where cases of smallpox could be received, and at the date of writing, this matter is under consideration by the Department of Health.

The ambulance belonging to the St Andrew Committee, which is at the service of the hospitals and Local Authorities, has again done its usual good work, but its life is wearing out and a new and up-to-date chassis is to be purchased. The rate of one shilling a mile now charged may, perhaps, then be reduced.

The disinfecter (Grampian) at the Combination Hospital remains quite efficient. Thirty-eight disinfections were done in 1928, and these were entirely for Local Authorities and hospitals. There was no application for disinfection of clothes or materials from any private person. The provision of a similar apparatus at the new Sanatorium will diminish the work of the older one, and no doubt the services of both could be available to Local Authorities, if need should arise.

Tabular statements have been supplied to the Department and the Local Authority.

L.—School Closures.

The following list shows the schools closed for periods mentioned and causes given, on the recommendation of the Medical Officer of Health, during the year:—

For Influenza and Epidemic Colds :—

Scalloway	16th-20th January.
Aith	23rd January-3rd February.
Gott	23rd January-3rd February.
Skeld	24th January-3rd February.
Brough	24th January-10th February.
Livister	25th January-10th February.
Trondra	20th-24th February.
Happyhansel	21st February-2nd March.
Sandness	21st February-2nd March.
Quarff	20th February-9th March.
Gruting	26th March-6th April.
Sandsound	29th March-13th April.

For Scarlatina :—

Virkie	30th January-3rd February.
Hamnavoe	31st August-14th September.
Firth	3rd-19th October.
Brae	8th-26th October.
North Roe	15th-19th October.
Happyhansel	16th-26th October.
Gonfirth	29th October-2nd November.
Burra, Mid Isle	14th-30th November.
Firth	19th-30th November.
Vidlin	26th November-7th December.
Whiteness	14th-21st December.

For Measles :—

Twatt	14th March-4th April.
Sand	16th March-6th April.
Aith	10th-21st September.

For Chickenpox :—

Hamnavoe	19th March-6th April.
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School closure was primarily advised with a view to preventing the spread of infection, but many country schools are completely deserted on the first appearance of any infection in the district, and it must be admitted that in such cases closure of the school has been advised for the convenience of the Education Authority. Country folk often refuses to resume sending their children to school, without sufficient reason, and results to the attendance figures are disastrous. In such a county as this the methods advised by the Education Authority cannot be accurately followed.

M.—Venereal Diseases.

The conditions of the Lerwick Centre at the end of the year remained as described in previous reports, except for financial alterations, but the departure from Shetland since then of the doctor whose surgery had been recognised as a subsidiary centre may lead to a change in the local administration of the Scheme.

At the beginning of the year (May 15, 1927) there were under treatment or observation 10 cases of syphilis and 5 of gonorrhoea (7 males and 8 females). Treatment was commenced during the year in 14 cases of syphilis (6 females) and 21 of gonorrhoea (5 females). There were also 1 case of soft chancre, 2 cases of mixed infection, and 26 other than venereal. This gives a total of 50 males and 29 females who received treatment during the year to May 15, 1928.

Of these 79 persons:—

Left before completing course of treatment ...	14
Left after completion but before final tests ...	4
Left after completion and observation	40
Transferred to other Centres	7
Under treatment at end of year	14
	—
	79

The number of attendances was 1956 (of which 36 were by persons from Scottish areas outside Shetland, and 52 by persons from outside Scotland). Of the total attendances, 68 were at the consulting rooms of the original centre, and 1888 at the house of the doctor which has been recognised by the Board of Health as a subsidiary centre.

Of the 53 patients treated for venereal conditions, 4 were 5-15 years, 16 were 15-25, and 33 were over 25. Three cases of congenital syphilis were included in the total number treated.

N.—Tuberculosis.

The following table shows the incidence of the disease in the various parishes of the County, and the number of deaths and notifications compared with those of previous years.

It will be noted that while deaths during the year are slightly fewer, 28 instead of 31, the notifications have nearly doubled, 110 instead of 60.

TUBERCULOSIS TABLE.

Registration District.	Population, 1921.	Total deaths T.B. 1928.	Deaths of notified persons.	Total notifica- tions 1928.
NORTH ISLES—				
Unst	1817	1	1	3
North Yell	590	0	0	1
Mid and South Yell	1543	3	1	4
Fetlar	224	0	0	0
LERWICK (Burgh)	4792	6	5	29
MAINLAND DISTRICT—				
Bressay	589	0	0	3
Burra	808	0	0	2
Delting	1136	2	1	1
Dunrossness	1234	1	1	2
Fair Isle	127	0	0	0
Foula	149	0	0	0
Lerwick (Landward)	2156	4	4	8
Lunnasting	466	0	0	0
Nesting	519	1	1	0
Northmavine	1635	1	1	9
Sandsting and Aithsting	1871	2	2	8
Sandwick and Cunningburgh	1919	2	2	8
Skerries	127	0	0	0
Sandness	404	1	1	5
Tingwall	1185	2	2	18
Whalsay	885	2	1	2
Whiteness and Weisdale	581	0	0	4
Walls	674	0	0	3
Papa Stour	119	0	0	0
Totals		28	23	110
The totals for 1921 were				
„ 1922 „		55	29	89
„ 1923 „		50	39	89
„ 1924 „		34	26	100
„ 1925 „		58	47	117
„ 1926 „		36	27	122
„ 1927 „		29	23	89
„ 1927 „		31	26	60

Of the total deaths, 11 were of males and 17 of females, and 7 were due to non-pulmonary causes. Of the notifications (51 males and 59 females) 64 were pulmonary and 46 non-pulmonary, disease of the pleura being included in the former.

The known cases of tuberculosis at the end of the year in the County, totalled 499, of which 305 were pulmonary. Many of these of course are quiescent or cured.

TREATMENT—

(1) *Sanatoria*.—At January 1 there were 3 patients at sana-

toria in Scotland, and during the year 5 were admitted. Of these 8, 4 were discharged, leaving 4 at December 31.

There were under treatment at the Gilbert Bain Hospital at January 1, 7 cases and 41 were admitted during the year. Of this 48, 38 were discharged during the year and 1 died, leaving 9 under treatment at December 31. Forty-eight cases of tubercular disease were operated on by the County Surgeon.

At Lerwick Sanatorium the number of patients under treatment was 8 at January 1 and 30 were admitted during the year. Of this 38, 3 died and 17 were discharged, leaving 18 at December 31.

(2) *Domiciliary*.—The number of patients receiving benefit at January 1 was 31. During the year 16 were placed upon the list. Of this 47, 9 died and 13 were removed from treatment, leaving 25 at December 31.

Thirteen district nurses made a total of 1105 visits to 69 tubercular patients in various parts of the County, while in Lerwick and environs, Nurse Shearer did the usual systematic visiting of practically all notified cases. The total cost to the County of Institutional treatment was £2246, and of Domiciliary treatment £303, for the calendar year.

The outstanding event of the year under this heading was the opening on November 13 of the Zetland County Sanatorium. This is a small but complete institution of 24 beds, and all who have seen it are agreed that the Council may be justly proud in the possession of a really up-to-date little hospital, where patients can be comfortably treated and the staff properly housed. On each side there is a main ward of 8 beds, a small ward of 2 beds and two single-bedded rooms, and thus at last it is possible to isolate patients who may be seriously ill. This, and the other benefits of the new building were at once appreciated by patients and staff.

O and P.—Child Welfare and Notification of Births.

Since last year a Nursing Association has been formed in Walls and Sandness, and the services of a District Nurse are now available. At the time of writing a movement is afoot with this object in Lunnasting and Nesting, and it is understood the Department have had applications before them. This leaves only the Parish of Delting to consider, and it is largely owing to the apathy of the people of Voe and neighbourhood that no forward move has taken place.

If District Nurses were available for all parishes it would become possible to co-ordinate the services throughout the Mainland District and to obtain the backing and official assistance of

the District Committee, with resulting grants from the Department for Child Welfare purposes.

Notification of births is now the general rule throughout the District. There were 171 births during 1928, of which 11 were illegitimate, and 133 of these were notified. One still-birth was notified.

The number of deaths under one year was 9, giving an infantile mortality rate of 53 deaths per 1000 births. The ages at death and causes were as follows :—

- 1-4 weeks—6—meningeal haemorrhage (1); white asphyxia (2); hydrocephalus (1); premature birth (2).
- 3-6 months—1—convulsions.
- 6-12 months—2—meningitis (1); bronchopneumonia (1).

Q.—Milk and Dairies.

The control and inspection of byres and cowsheds is in the hands of the Veterinary Inspector. As the public has not had an opportunity of seeing his report, it is here submitted, with his consent :—

“At 15th May, 1928, when I took up duty as your Inspector under the Milk and Dairies (Scotland) Act, 1914, the number of registered premises in the area was 92, of which 43 were permanently and 49 provisionally registered. The total number of cows supplying milk was 401.

“By 6th September, 1928, I had completed the inspection of 51 premises which, by that date, were provisionally registered, and in which 203 cows were examined. The total distance covered in this connection was 223 miles.

“On 15th November following, I had visited a total of 94 registered premises and examined 411 cows, the mileage travelled being 429. In 54 unregistered premises 109 animals were examined, the mileage covered during this examination being 256.

“Permanent certificates of registration have been granted to respect of 19 additional premises, making a total of 62 permanent registrations at the end of the year.

“Provisional certificates of registration, expiring on 31st March 1929, have been granted in respect of 34 premises, at which date a further number will be added to the permanent list.

“Four cases of simple mammitis, 7 cases of retained placental membranes, and 1 case of actinomycosis have been reported, and while under treatment, milk from these animals was withheld from sale.

“An outbreak of cowpox (*variola vaccinia*) limited to 2 dairy

premises, was encountered, and rigid isolation and disinfection was observed while the animals were under treatment. The outbreak was restricted to 9 cows.

"Nineteen milk samples were drawn from cows in both registered and unregistered premises and subjected to microscopical examination for tubercle bacilli, with negative results. One sample submitted for bacteriological analysis also proved negative for tuberculosis.

"Sustained interest is evidenced by dairymen as a whole towards the improvement of the milk supply. In several instances, small cooling appliances have been installed, but lack of an abundant water supply is retarding a marked progress in this direction. There is still room, however, for more hygienic methods of handling the milk.

"An encouraging start has been made with tuberculin testing of the dairy cows in the area, and from results obtained from over 100 tested, the percentage of reactors is on the decline. However, with the considerable number of Mainland and Orcadian cows imported to the dairy byres during the year, an increase in the number of reactors in these premises is noted, signifying that, to a great extent, imported animals account for the majority of tuberculin positive cows in the dairy premises."

No samples of milk were submitted for bacteriological examination by the M.O.H. No milk is consigned to the District from other areas and no action as to dirty milk was taken. There was during the year no evidence of any milk-borne disease. There is no attempt at grading of milk in the District.

R.—Food.

There are nine private slaughter-houses licensed in the District, and these are generally well conducted. They are not, of course, constructionally what would be required in a richer and more populous county, but it can be safely said that the conditions of slaughtering and meat inspection in the Mainland District will compare very favourably with those of most rural districts in Scotland, practically all carcasses intended for public consumption being inspected by the Sanitary Inspector or M.O.H.

This entails a great deal of work and much mileage, but probably the District Committee will be satisfied that an honest attempt is being made to carry out the meat regulations. Arrangements were made for provisional detention of carcasses to act in Whalsay, Burra, and Hillswick, but only in the last case has any actual inspection taken place, or payment of fees been necessary.

The number of animals slaughtered and inspected is as follows :—

Oxen, 32; heifers and cows, 157; calves, 11; and pigs, 4; —totalling 204. In 128 (or 63 per cent.) of these, parts were condemned, nearly always for parasites, these being generally hydatids. One whole carcase of a cow and part of that of a bull were condemned for tubercular disease, both being local animals. Sheep slaughtered and inspected numbered 882. Parts of 706 (80 per cent.), were condemned on account of parasites.

Hydatid disease shows no lessening and probably the usual discussion on the subject will again take place. It is understood that the County Police were desired to take some steps to investigate the question of dog-licences in the District with a view to limiting the number of unnecessary dogs. But of their effort in this direction, if any, no result has transpired.

COUNTY SANITARY OFFICE,

LERWICK, *April*, 1929.

To

*The Department of Health for Scotland,
The County Council of Zetland, and
The Local Authority of the Mainland District of the
County.*

GENTLEMEN,

In terms of Section 15 of the Public Health (Scotland) Act, 1897, I beg to submit the following Report on the general Sanitary Conditions of the County for the year ended 31st December, 1928.

I have the honour to be,

Gentlemen,

Your obedient Servant,

WILLIAM ALEXR. WATT,

*County Sanitary Inspector,
Chief District Sanitary Inspector
for the Mainland District.*

REPORT by the Sanitary Inspector for the year ended 31st December, 1928.

WATER SUPPLIES.

Lerwick (Landward) Special District.—The water supply remains in the same condition as last year. There was a bigger influx of seasonal workers than in 1927, owing to the fishing being more successful, and on some of the herring stations, the supply was somewhat meagre. Fluctuations in the amount of water available are bound to vary as between premises near Lerwick and others situated at Gremista and Scotland Point; and while the small size of the main pipe would account for this to some extent, there is a possibility that deposits of peaty matter and incrustations of iron in the pipes may have something to do with it.

Now and again the lead services in the Burgh of Lerwick have to be cleared of peaty residue which gathers on the sides of the pipes, and, as I understand, the lead services are only $\frac{1}{2}$ in. diameter in the Landward District, the supply might be improved by scraping and clearing the pipes, as any deposits or incrustations, in addition to contracting the diameter of the pipes, cause considerable friction and retard the flow and the quantity of the water passing through.

Scalloway Special District.—There is nothing further to record in connection with the Scalloway Supply.

The present consumpt of water has not shown any appreciable variation from last year, and is not likely to do so, unless and until water supplies are laid on to the dwelling houses for the provision of sinks and water closets. The prospect of this being done, however, is a somewhat remote contingency,

but that there is a clamant need for it, as the following report submitted during the year amply proves.

Gentlemen,

As instructed I submit herewith a report re sanitary conveniences, ashpits, disposal of refuse, etc., in Scalloway Special Water, Drainage, and Scavenging District. I may state that most of the pail privies are just a make-shift with a pail in an outhouse, where such is attached to the dwelling-house, but as will be seen from the report, there are 111 houses where there are no conveniences of any description. The male population use the common conveniences provided at the sea front, one consisting of an automatic flushing range of four urinal stalls and four closet seats, and other three wooden privies, where the excrement falls directly into the sea.

The worst cases of course, are the five tenement properties consisting of two with eight tenants each, and three with six, nine and ten tenants respectively, because, the women folks at anyrate, have no sanitary accommodation outside the houses they occupy, and obviously, there must be daily in these houses recurring offensive smells which must be common to all the tenants, more especially in the ten tenement property, which is only a wooden structure.

The greatest hardship is in the case of the female population and young children who are living in houses without conveniences, as the men have provision otherwise, as have also children attending school; and if anything is to be done, efforts should be concentrated on providing accommodation for this class of the community :

SCALLOWAY SPECIAL WATER, DRAINAGE AND SCAVENGING DISTRICT.

Report on Sanitary Conveniences, Ashpits, Etc.

(a) Number of houses with water closets, including five properties with 1 W.C. for each two tenants, one property with 1 W.C. for four tenants, and 2 semi-W.C.'s, flushed by pail	...	...	...	...	56
(b) Number of houses with pail privies	...	...	...	...	17
(c) Number of houses without conveniences	...	...	...	...	111
(d) Number of houses with ashpits	...	...	...	...	3
(e) Number of houses without ashpits, allowing that houses of two or more tenants would have a common ashpit	...	...	...	...	118

Where no conveniences or ashpits, method of disposing night soil and household refuse :—

(a) Number of houses disposing of household refuse, ashes, and night soil in the sea	118
(b) Number of houses disposing of ashes and refuse only in the sea	29
(c) Number of houses disposing of household refuse, ashes, and in a few cases night soil for agricultural purposes	29
(d) Number of houses disposing of household refuse and ashes partly for agricultural purposes, and partly into the sea	16
Total number of dwelling-houses in the district	192

The whole position was fully discussed by the Local Authority and also the Scalloway Sub-Committee who, while aware of the urgency of an increased water supply being provided, and their desire to have the necessary work carried out, decided that the question was entirely one of money, the expenditure of which, the present state of trade in the district did not warrant.

A further inspection of the water supplies at the various dwelling-houses throughout the Mainland was carried out and 37 open wells were protected against pollution.

DRAINAGE.

Lerwick (Landward).—The system of surface concrete channels still serves the main section of the District, the efficient working of which is largely due to the thorough way in which the local scavenger keeps them free from obstructions.

Burgess Street and the upper half of Fleet Street are still without any proper system of drainage, apart from earth carriers, and here again the prevention of nuisance as far as it is reasonably practicable to do so, depends upon the scavenger, and considering the difficulties he has to contend with, the drainage is kept going wonderfully well.

Scalloway District.—In this District the sewage arrangements continue to work satisfactorily. Owing to the want of W.C.'s in the majority of the houses, the most of the drainage consists of ordinary waste water and road water, so that the system is never working at its full capacity except during heavy rainstorms.

Rural District.—The disposal of waste water from the houses inspected in other parts of the country was on the whole fairly satisfactory. In some cases untrapped drains near and inside the porches of the houses were found, and these were asked to be trapped, failing to be closed up and the waste water carried away a sufficient distance so as to avoid any nuisance from same.

SCAVENGING.

Lerwick (Landward).—The scavenging of this district calls for no special comment apart from what was reported in the previous year.

Considering the area to be covered in carrying out the work, and the nature of the refuse which has to be dealt with where there are practically no water closets, it is satisfactory to note that the scavenging is so well attended to.

There is still a tendency, however, for some of the fishing community to dispose of empty mussel shells and putrid mussels at the foot of the roadway in Fleet Street, and also on the grazing ground in front of the houses, instead of conveying them away to the sea-front; but as this is trade refuse, for the removal of which the Local Authority is not liable, warnings have had to be given, both verbal and written, against this practice. Since then no further cause for complaint has arisen.

Scalloway District.—The foreshore still continues to be the dumping ground for most of the refuse in the district, and the Local Committee during the year had the premises periodically cleaned up to prevent any nuisance arising.

Further particulars as to the disposal of refuse and night soil are given in the special report enclosed under the remarks on the water supply of this area.

Nuisances.—The number of complaints received amounted to 22 and all cases were visited and action taken where circumstances warranted doing so. Ninety-four intimations and four Statutory Notices of nuisance were issued and the following improvements were effected, *i.e.* :—

Water supplies protected, 37; opening windows provided, 10; floors of apartments renewed or repaired, 7; defective drains closed up or disconnected, 6; improved waste water disposal, 0; covers of wells repaired, 2; damp house repaired, 2; and one each of the following—fowls and animals removed from dwelling house, window repaired, choked drain and waste water pipe cleared out, overcrowded house vacated, water supply reconnected to sink, accumulation of offensive refuse removed, roof

covering of house repaired, and unlighted and unventilated bed-closet opened up as a recess to kitchen.

In addition a new drainage system was laid down for a dwelling-house in lieu of a cess pool arrangement, the pail privy converted to a water closet, waste pipe provided for the sink and the wash-house properly drained.

The arrangement made with the Lerwick Town Council not to use the Gilbertson Park for disposal of the Burgh refuse was strictly adhered to during the months from April to September inclusive, so that no further cause for complaint was received. Since the beginning of October the park has again been used for this purpose, but as the site of disposal is now at a considerably greater distance from the public road than when the refuse was first laid down, and as the deposits are still being covered with earth, there was practically no nuisance up to the end of the year, nor probably will be, so long as the precautions agreed on are observed, unless the fly plague breaks out during the warmer weather.

GENERAL INSPECTIONS.

As in previous years inspections under this head were mainly confined to housing, and also schools, workshops, graveyards, milkshops and other premises.

SPECIAL INSPECTIONS OR INQUIRIES.

These were made in connection with complaints received and also to premises where infectious diseases occurred. Eighty-eight cases of infectious diseases were visited, *i.e.*, 83 of scarlet fever, 4 pulmonary tuberculosis, and 1 cerebro-spinal fever. Thirty-two houses were disinfected, and 187 sets of bed and body clothing were disinfected or destroyed.

SLAUGHTER-HOUSES AND OFFENSIVE TRADES.

There are now nine licensed slaughter-houses in the Mainland District, *i.e.* :—Two each at Scalloway and Sandwick, and one each at Hillswick, Mossbank, Voe, Vementry, and Boddam. The slaughter-houses were all altered to meet the requirements of the Bye-laws, and one was newly built for the business. The structure of one or two of the houses' walls and roofs (apart from the cement walls) which have been patched from time to time, are now showing signs of requiring more extensive repairs, and those will be asked for before the licenses are renewed for another year.

The cleanliness of the premises and accessories used in the trade has been fairly well maintained, but there is still room for improvement. A little more time devoted to the washing up after slaughtering would accomplish this, as fresh bloodstains and soiling from the ingesta are then easily removed compared with trying to clean up after the blood, etc., has become dry. The other offensive trades, *i.e.*, the whaling station and the fish guano and oil factories at Bressay call for no special comment compared with last year.

There was again a falling off in the number of whales available to keep the station working at its total capacity, which seems to indicate that the mammals are either getting killed out, or for the season had betaken themselves to some other area of ocean outwith a reasonable fishing distance from the Shetlands.

With a slump in the raw material, the whales were all worked up in a comparatively fresh condition, and during the season no complaints were received, and on the occasional inspections made, there were no offensive smells or other conditions to which any serious objections could have been taken.

The factories at Bressay were well conducted. There is hardly any question of offensive smells there, as the herring offal, which comprises the bulk of the material dealt with, is practically manufactured in a fresh state. A fair proportion of kipper offal which putrifies at an early stage, and also unsalted herrings during a glut are also dealt with, as well as white fish refuse; and if it were not for the salt offal being in the greatest quantity, freedom from nuisance would be more noticeable.

All the premises were structurally in good order except one of the factories where the surface of a stone and cement concrete landing pier was found in a depressed and broken up condition, causing parts of the putrifying liquid refuse to stagnate and give off offensive smells. This was pointed out to the local manager, who undertook to have the matter remedied before operations for another season were commenced.

UN SOUND FOOD.

The work of meat inspection was considerably increased during the year, and as Detention Officer under the Meat Regulations, 297 visits were paid to the slaughter-houses. Details of the animals slaughtered and seizures made will be found in the report of the Medical Officer, who is Meat Inspector for the Mainland District. Periodical visits were made to other premises where food was kept for sale and in this connection 137 inspections were made to butchers' shops and 15 to grocers' and provision merchants.

The cleanliness of these premises was on the whole satisfactory. There are still, however, provision shops where perishable foodstuffs are stored, with a direct connection to the dwelling-house occupied by the shop-keepers which cannot be considered a satisfactory arrangement from a public health standpoint, although it may be convenient in other ways; but this will likely continue until power is given to prohibit it. It may seem a trivial thing to mention, but considering the fact that special provision is made, even in the modern working man's house in the shape of a larder for keeping the domestic food supply cool and free from dust and flies, etc., it cannot be considered either trivial, or for that matter unreasonable, to expect that the store or shop should be equally equipped or even more so, to preserve the perishable foodstuffs on sale to the public from contamination. Of all the perishable and tinned foods examined in the shops during the year, only one piece of ham, weighing 7lb., was condemned as being unfit for human food on account of decomposition. The tinned and other stocks of a preserved nature were found in good order, and from the outside appearance of the tins and other containers were quite fresh from the warehouses or manufacturies.

SCHOOLS.

The schools are still being maintained in a satisfactory condition, both as regards structure and cleanliness. Twenty-four inspections were carried out during the year. A gravitation water supply for Quendale School was agreed on before the end of the year, and is now in course of being laid down.

WORKSHOPS.

The workshops, etc., in general, call for little comment as compared with last year. The majority of the workshops (which includes workplaces) are the herring stations, and as already reported in previous years these are now subject to the Seasonal Workers Bye-laws, and will be more fully dealt with under that section.

The number of inspections made to the different premises were as follows:—Workshops, 52; Whaling Station, 5; Fish, Oil and Guano Factories, 2. A verbal notice was given in connection with the repairing of a bakehouse floor, and this was duly remedied.

Another verbal intimation was given in connection with the repair of a landing pier at one of the fish oil factories, and has

already been referred to under the section dealing with offensive trades.

COMMON LODGING-HOUSES.

There are still no common lodging-houses in the district.

MILKSHOPS.

There are only four registered milkshops in the district, and these have been kept in a satisfactory condition. Two of the milkshops are in Scalloway, and two in the District of Lerwick (Landward). Most of the milk in the rural district between Lerwick and Scalloway is supplied direct to consumers by the cowkeepers, which obviates intermediate handling and consequently less chance of contamination.

BURIAL GROUNDS.

Ten graveyards were inspected during the year, and for the most part were found in fair order, considering the difficulties which old burial grounds present in not having the graves in regular lairs and the absence of complete records of interments, which must lead to over-lapping and overcrowding. As mentioned in previous years there is plenty of scope for improvements and extensions to obviate such conditions; and as there is reasonable ground for believing that Parish Councils will still have a large share of responsibility with regard to graveyards and other parish matters under the proposed new Local Government Act, it is only right from a sense of sanitary disposal of the dead, that this matter should not be lost sight of.

BURIALS.

The body of what appeared to be a seafaring man washed ashore at Heogan, Bressay, was interred in the churchyard at Mail. There was nothing on the remains to give any clue as to identification.

BYE-LAWS.

Buildings.—Three plans were submitted during the year, one for dwelling-house, another for addition to an existing dwelling-house, and the third for a garage, all in Lerwick (Landward) District.

All the plans were approved by the Local Authority, although objections by the Medical Officer and myself were lodged, as has

been done in similar cases, against the addition to the dwelling-house being granted, owing to the already congested state of the North Roadside area, and the want of sanitary accommodation—sinks, water-closets, and drainage. As has been stated in previous reports, the more the existing type of house or an addition is perpetuated, then the more difficult will be the process of carrying out the long overdue improvements to remove the menace which this district is, not only to the health of the people resident there, but also to those living in the Burgh of Lerwick, of which the North Roadside area is simply an extension. It has been fortunate that for the time past no serious epidemic of infectious disease has arisen, but should this occur, all the conditions exist for spreading it.

SEASONAL WORKERS BYE-LAWS.

These Bye-laws are, for the most part, still inoperative on the herring stations. It is now three years ago since the Bye-laws were confirmed, and at the commencement of the herring season, only two firms could be said to have their stations in order.

Three curers gave no notice of date of arrival of workers, nor the nature and extent of accommodation to be provided, and although they were reported for not doing so, no action was taken in the matter. One of the three firms put their workers into huts which, from their situation and state of repair, would have been condemned had intimation been given that they were to be used for workers, but it was only after the season had begun that this firm started curing, and it was too late to find other accommodation.

Twenty-one firms had no washing accommodation for the workers, a spare hut (with wooden floor, no drainage or water supply, nor suitable boiler for heating water) doing duty instead, while in a number of cases washing operations had to be carried out in the open air, and in the living rooms.

Work in connection with erection of wash-houses was in hand during the season at four stations; two firms had converted sleeping huts for the purpose with wooden floors, no drainage or water supply, but boilers and benches for tubs fitted up; and one firm had a wash-house, but it was used as a garage, preventing the workers getting access to it. The state of repair of a number of the huts, the scavenging arrangements, and the exhibition of the Bye-laws could be largely improved upon, and also the cleanliness of the huts where men gutters were employed.

A report on the foregoing was submitted to the Local Authority, and it was agreed to notify the curers concerned, that

unless the stations were put into order before the 23rd May, 1929, steps would be taken to enforce the Bye-laws.

PIG-STYS.

These are all situated in the country districts and call for no special comment apart from what has been stated in former reports. Pig-rearing is not carried on as a commercial asset, so that in most cases the domestic pig is fattened only for home use by the crofter. Seven inspections were made and pigs were only found at two of the premises visited.

SLAUGHTER-HOUSES.

These have already been referred to under Offensive Trades.

HOUSING INSPECTIONS.

Systematic inspections under this heading were again carried out, and altogether 154 houses were examined. On the whole the houses were found in a fairly good state of repair, and where otherwise these were dealt with under the Public Health Act. A few of the houses were of the old straw thatched type, already mentioned in former reports. These are difficult to deal with, as the occupiers are usually unable to reconstruct the houses, were it practicable to do so, or to face the cost of new ones. The occupiers too are mostly old people to whom the condition of the premises has grown with them, and anything by way of improvements would "shorten the lives of the inmates," as one old crofter put it. All that can be done in these cases, therefore, is to endeavour to get sufficient repairs carried out, whenever possible, to prevent the premises becoming entirely uninhabitable.

A house of this type was closed up after an order had been issued by the Local Authority under the Housing Act. Another house for which a closing order was served in 1927 was also vacated and closed up. There is no change in the housing conditions at North Roadside, Lerwick. Seventy sanitary conveniences were erected during the year.

HOUSING SUBSIDY.

The plan and specification of one house was approved of, but the building was not completed at the end of the year. The usual tabular statement has been forwarded to the Department of Health and the Local Authority.

